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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R07-OAR-2011-0675; FRL-9611-3]

Approval and Promulgation of Implementation Plans; State of
Kansas: Regional Haze

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is taking final action to approve a revision to the State Implementation Plan (SIP) for Kansas, submitted by the Kansas Department of Health and Environment on October 26, 2009, that addresses Regional Haze for the first implementation period. EPA has determined that the plan submitted by Kansas satisfies the requirements of the Clean Air Act (CAA or Act), for states to prevent any future and remedy and existing anthropogenic impairment of visibility in Class I areas caused by emissions of air pollutants located over a wide geographic area (also known as the "regional haze" program). EPA proposed to approve these revisions on August 23, 2011 (76 FR 52604).

EFFECTIVE DATE: This rule will be effective [insert date 30 days from publication in the Federal Register.]

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA-R07-OAR-2011-0675. All documents

in the docket are listed on the www.regulations.gov web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Air Planning and Development Branch, Air and Waste Management Division, U.S. Environmental Protection Agency, Region 7, 901 North 5th Street, Kansas City, KS 66101. EPA requests that if at all possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section for further information. The regional office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Chrissy Wolfersberger, Air Planning and Development Branch, U.S. Environmental Protection Agency, Region 7, 901 N. 5th Street, Kansas City, Kansas 66101; by telephone at (913) 551-7864; or by email at wolfersberger.chris@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document, the terms "we," "us," and "our" refer to EPA.

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I. Background

On August 23, 2011 (76 FR 52604), EPA published a notice of proposed rulemaking (NPR) for the State of Kansas, proposing approval of Kansas' regional haze plan for the first implementation period (through 2018). A detailed explanation of the CAA's visibility requirements and the regional haze rule as it applies to Kansas was provided in the NPR and will not be restated here. EPA's rationale for proposing approval of the Kansas SIP revision was described in detail in the proposal, and is further described in this final rulemaking.

II. Public comments and EPA responses

The publication of EPA's proposed rule on August 23, 2011 initiated a 30 day public comment period that ended on September 22, 2011. During the public comment period we received written comments from the State of Colorado, the Kansas Department of

Health and Environment on behalf of the State of Kansas (State), Kansas City Power & Light, Westar Energy, and the National Parks Conservation Association (NPCA). We have summarized the comments and provided our responses below. Full copies of the comment letters are available in the docket for this rulemaking.

Comment #1: The State of Colorado submitted comments supportive of EPA's proposed approval and applauding the State of Kansas' efforts to evaluate and promulgate cost effective emission controls that will improve visibility in a number of Class I areas, including Rocky Mountain National Park and Great Sand Dunes National Park & Preserve.

Response #1: We appreciate the State of Colorado's comments on our proposed action.

Comment #2: The State and Westar Energy noted some transcription errors in table 7 of the proposed notice, titled "Control or work practice strategies for Westar units to meet Kansas long term strategy requirements." Some limits for sulfur dioxide (SO₂) were recorded as limits for nitrogen oxides (NO_x), and vice versa. The specific errors were:

- Lawrence Unit 3: the limit of 0.18 lbs/mmBtu is for NO_x, not SO₂
- Lawrence Unit 4: the limit of 0.18 lbs/mmBtu is for NO_x, not SO₂; and the limit of 0.15 lbs/mmBtu is for SO₂, not NO_x
- Tecumseh Unit 7/9: the limit of 0.18 lbs/mmBtu is for NO_x, not SO₂
- Tecumseh Unit 8/10: limit of 0.18 lbs/mmBtu for NO_x, not SO₂.

Response #2: EPA agrees that there were transcription errors in table 7. Table 7 is corrected to read as follows:

| Facility/Unit | Emission rate or work practice |
|-------------------------------------|---|
| Gordon Evans Energy Center - Unit 1 | a fuel switch to natural gas at all times, with the exception of a gas curtailment order from the gas supplier, in which case the facility will be allowed to utilize backup # 6 fuel oil |
| Hutchinson - Unit 4 | a fuel switch to natural gas at all times, with the exception of a gas curtailment order from the gas supplier, in which case the facility will be allowed to utilize backup # 6 fuel oil |
| Murray Gill - Units 1, 2, 3 and 4 | a fuel switch to natural gas at all times, with the exception of a gas curtailment order from the gas supplier, in which case the facility will be allowed to utilize backup # 6 fuel oil |
| Neosho - Unit 7 | a fuel switch to natural gas at all times, with the exception of a gas curtailment order from the gas supplier, in which case the facility will be allowed to utilize backup # 6 fuel oil |
| Jeffrey Energy Center - Unit 3 | an emission limit of 0.15 lbs/MMBtu for both SO ₂ and NO _x |
| Lawrence - Unit 3 | an emission limit of 0.18 lbs/MMBtu for NO _x |
| Lawrence - Unit 4 | an emission limit of 0.18 lbs/MMBtu for NO _x ; an emission limit of 0.15 lbs/MMBtu for SO ₂ |
| Lawrence - Unit 5 | an emission limit of 0.15 lbs/MMBtu for both SO ₂ and NO _x |
| Tecumseh - Units 7/9 | an emission limit of 0.18 lbs/MMBtu for NO _x |

| | |
|--------------------------|---|
| Tecumseh - Units 8/10 | an emission limit of 0.18 lbs/MMBtu for NO _x |
|--------------------------|---|

Comment #3: Westar Energy noted errors in table 8 of the proposed approval, titled, "Estimated NO_x and SO₂ emission reductions for implementation of controls or work practices required by Kansas' long term strategy". Errors in table 8 included listing the 2002 SO₂ emissions for Lawrence Unit 5 as 4,546.3 tons (the correct value is 4,353.7 tons), and listing the post-control NO_x emissions for Lawrence Unit 4 at 835.4 tons (the correct value is 1002.4 tons).

Response #3: EPA agrees that there were errors in table 8.

Table 8 is corrected as follows:

| Facility | Unit | 2002 NO _x Emissions (tpy) | 2002 SO ₂ Emissions (tpy) | Post Control NO _x (tpy) | Post Control SO ₂ (tpy) | NO _x Reductions (tpy) | SO ₂ Reductions (tpy) |
|--------------|------|--------------------------------------|--------------------------------------|------------------------------------|------------------------------------|----------------------------------|----------------------------------|
| Gordon Evans | 1 | 258.7 | 617.7 | 211.9 | 0.5 | 46.8 | 617.2 |
| Hutchinson | 4 | 267.1 | 734.3 | 158.5 | 0.6 | 108.5 | 733.7 |
| Jeffrey | 3 | 10,807.4 | 23,206.0 | 4,913.1 | 4,913.1 | 5,894.3 | 18,292.9 |
| Lawrence | 3 | 728.4 | 1,965.4 | 0.0 | 1,965.4 | 728.4 | 0.0 |
| Lawrence | 4 | 1,986.5 | 1,430.0 | 1,002.4 | 835.4 | 984.1 | 594.7 |
| Lawrence | 5 | 3,546.3 | 4,353.7 | 2,564.7 | 2,564.7 | 981.6 | 1,789.0 |
| Gill | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gill | 2 | 4.5 | 0.0 | 4.0 | 0.0 | 0.5 | 0.0 |
| Gill | 3 | 181.6 | 452.1 | 148.6 | 0.3 | 33.0 | 451.8 |

| | | | | | | | |
|----------|---|---------|---------|---------|---------|----------|----------|
| Gill | 4 | 103.8 | 333.3 | 85.2 | 0.2 | 18.7 | 333.1 |
| Neosho | 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tecumseh | 7 | 1,530.6 | 2,692.7 | 691.6 | 2,692.7 | 839.0 | 0.0 |
| Tecumseh | 8 | 1,876.9 | 4,514.9 | 1,103.1 | 4,514.9 | 773.8 | 0.0 |
| Total | | | | | | 10,408.7 | 22,812.5 |

Comment #4: As noted in the proposal, the State entered into Consent Agreements with Kansas City Power and Light and Westar Energy to incorporate the Best Available Retrofit Technology (BART) emission rates, compliance schedules, monitoring, recordkeeping, reporting, and enforceability requirements. EPA proposed to disapprove specific startup, shutdown and malfunction (SSM) provisions in the State's regional haze Consent Agreements with Westar Energy and Kansas City Power and Light that were submitted as part of the regional haze SIP. The State commented that EPA's proposed exclusion of periods of SSM from the Consent Agreements has the effect of making the BART emission limits more stringent. The State requested that EPA consider fully approving the SIP revision. Kansas City Power and Light commented that the proposed approval of the Kansas Regional Haze SIP excluding the SSM provisions fundamentally changes the basis of the emission limits, and because the SSM provisions were agreed to through good faith negotiations with the State, Kansas City Power and Light asked that the Agreements

be renegotiated. Westar Energy made similar comments, disagreeing with the proposed disapproval of the SSM provisions in the Consent Agreement between the State and Westar Energy.

Response #4: As EPA explained in the proposed notice, the Consent Agreements exempted periods of startup and shutdown for both Kansas City Power and Light and Westar Energy from compliance with applicable emission limits, which were not narrowly defined, and exempted periods of malfunction for Westar Energy. EPA proposed to disapprove the exemptions because they are inconsistent with the Clean Air Act and EPA's September 20, 1999, guidance, "State Implementation Plans: Policy Regarding Excess Emissions during Malfunctions, Startup and Shutdown."¹

EPA subsequently received a letter from the State dated December 1, 2011, withdrawing the SSM provisions in the Consent Agreements in their entirety from the regional haze SIP. Specifically, the following four provisions were withdrawn from EPA's consideration for approval in the regional haze SIP:

¹ Steven Herman, Assistant Administrator for Enforcement and Compliance Assurance, and Robert Perciasepe, Assistant Administrator for Air and Radiation, "State Implementation Plans (SIPs): Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown," September 20, 1999; and 52 FR (45109 November 24, 1987).

1. all references to, "excluding periods of startup and shutdown" in Paragraph 23 of the Kansas City Power and Light Company regional haze agreement;
2. the reference to, "excluding periods of startup, shutdown and malfunction" in footnote 1 of Appendix A to the Westar Energy, Inc. regional haze agreement;
3. all references to, "excluding periods of startup and shutdown" in Chapter 9.3.1 of the Kansas regional haze SIP;
4. and the sentence, "The Agreements between KDHE and the affected BART sources currently exclude emissions associated with startup, shutdowns, and malfunctions (SSM) in the agreed upon emission limits'' in Chapter 9.5 of the Kansas regional haze SIP.

Since the SSM provisions were withdrawn by the State, and are therefore no longer before EPA, neither EPA's proposed disapproval of these exemptions nor the comments on that proposed disapproval are relevant to this final action.

Comment #5: NPCA commented that Kansas' regional haze plan is incomplete and insufficient, because of what NPCA considers an incomplete five step BART analysis at Westar Energy Jeffrey

Energy Center Units 1 and 2, and at Kansas City Power and Light La Cygne Units 1 and 2. NPCA states that requiring presumptive limits does not negate the need for a State to determine BART for each source subject to BART on a case-by-case basis through a five factor analysis. NPCA stated that the most stringent emissions rate the various technologies are capable of achieving needs to be analyzed for cost and visibility improvement in order to make an adequate BART determination. NPCA offered a number of specific comments about these units, which are listed and addressed separately below.

NPCA asserted that selective catalytic reduction (SCR) is a cost-effective technology to control NO_x emissions. As such, NPCA believes that SCR should be required as BART for Westar Energy Jeffrey Units 1 and 2. The original BART analysis for these units examined SCR at an emission rate of 0.10 lbs/MMBtu and determined that the cost effectiveness was \$2,211/ton of NO_x removed and \$1,738/ton of NO_x removed for Units 1 and 2, respectively. NPCA states that these costs, while reasonable, are improperly inflated due to the State's low control efficiency assumptions; and that SCR is capable of achieving a

lower emissions rate than what the State assumed in its BART analysis, such as 0.05 lbs/MMBtu.

Response #5: On December 1, 2011, the State provided supplemental information on incremental cost and visibility improvement for various control strategies for Westar Energy Jeffrey Energy Center Units 1 and 2, and Kansas City Power and Light La Cygne Units 1 and 2. This information is available in the docket for this rulemaking. The supplemental dispersion modeling provided by the State was conducted with the CALPUFF model using the same inputs that were used during the original BART analysis, except that the emissions rates were changed to determine visibility improvement from various control options. Visibility impacts were evaluated at five Class I areas: Caney Creek and Upper Buffalo in Arkansas, Hercules Glades and Mingo in Missouri, and Wichita Mountains in Oklahoma. The State also obtained or developed annualized costs for the additional equipment that would be required to be installed in order to achieve lower emission rates.

The BART cost analysis for SCR at Jeffrey Units 1 and 2 was performed based on an emission limit of 0.10 lbs/MMBtu, which is

within the range of effectiveness that the State believed to be reasonable as a retrofit control on older tangential-fired units. The State assumed a control efficiency of 79-80 percent, which is in the mid-range of control efficiencies demonstrated for SCR, as noted by NPCA in their comments. EPA believes the State's decision to choose a control efficiency within the middle of the range for the purpose of estimating cost is a reasonable approach and is acceptable according to the BART Guidelines.² In the BART analysis, SCR operated at a rate of 0.10 lbs/MMBtu was evaluated for incremental cost improvements and was excluded as BART based on the high incremental cost for the associated low incremental visibility improvements.

The State subsequently provided additional cost and visibility information for SCR at Jeffrey Units 1 and 2, assuming an emissions rate of 0.08 lbs/MMBtu. The State asserted that the 0.05 lb/MMBtu rate was not reasonable to evaluate as retrofit for 35 year old tangential-fired units. The difference in modeled impact for Jeffrey Unit 1 between the SCR scenario (0.08 lbs NO_x /MMBtu) and the low NO_x burner (LNB) scenario (0.15 lbs NO_x /MMBtu) at Hercules Glades, the most impacted Class I area,

² 40 CFR Part 51, Appendix Y: Guidelines for BART Determinations Under the Regional Haze Rule

is 0.048 deciviews (dv) of additional improvement. The difference in the cumulative improvement across all five Class I areas for this scenario is 0.161 dv. The annualized incremental cost of these controls is \$13,362,820 in 2005 dollars, which we calculated to be \$5,374 per ton.

The use of SCR at Jeffrey Unit 2 has similar incremental costs as for Jeffrey Unit 1, but less visibility improvement. Incremental visibility improvement resulting from tightening the presumptive NO_x rate of 0.15 lbs/MMBtu to a rate of 0.08 lbs/MMBtu is 0.042 dv at Upper Buffalo, and 0.153 dv cumulatively across the five Class I areas. The incremental annual cost of these controls is \$13,345,950, for an incremental cost per ton of \$5,367.

The State concluded that these additional NO_x reduction costs are high for the associated low incremental visibility improvements for Jeffrey Units 1 and 2, and changes to the proposed BART emission limits are not warranted. EPA agrees that based on the low visibility improvements and high costs of additional control, it is reasonable to determine that no changes to the proposed BART emission limits are warranted. It is also

consistent with the BART Guidelines, which provide the State flexibility to determine the weight and significance of the five factors. EPA finds little support in the State's information for the statement that a rate of 0.05 lbs/MMBtu is not reasonable to evaluate for older tangential-fired units. However, it is reasonable to conclude that the costs and visibility improvement of SCR operated at a rate of 0.05 lbs/MMBtu would lead to a similar conclusion that the additional costs would be high for the associated low incremental visibility improvement. Therefore, EPA finds that no changes to the BART determinations or to the SIP are needed in response to this comment.

In addition, EPA notes that following the State's BART determinations and submission of the regional haze SIP, Westar Energy, EPA, and the State entered into a Federal Consent Decree in resolution of alleged violations of the Clean Air Act.³ Under the Consent Decree, Westar Energy is required to install an SCR on Jeffrey Unit 1, 2, or 3 by December 31, 2014 in order to achieve and maintain a 30-day rolling average unit emission rate for NO_x of no greater than 0.080 lbs/MMBtu. By December 31, 2012

³ United States and Kansas v. Westar Energy, Inc., Civil Action No. 09-CV-2059 JAR/DJW (D. Kan. March 26, 2010).

Westar Energy must elect to install a second SCR on one of the other two Jeffrey units, or meet a 0.100 lbs/MMBtu plant-wide 12-month rolling average emission rate for NO_x. If Westar Energy elects to install the second SCR, it is to be installed by December 31, 2016 to achieve and maintain a 30-day rolling average unit emission rate for NO_x of no greater than 0.070 lbs/MMBtu. Additionally, the Jeffrey plant must comply with a plant-wide 12 month rolling tonnage limitation of 9600 tons. Therefore, following implementation of the regional haze requirements and the Consent Decree provisions, the Westar Jeffrey Units will be well controlled for NO_x.

Comment #6: NPCA commented that overfire air and selective non-catalytic reduction (SNCR) were determined to be feasible technologies during the BART analysis, but were not evaluated for cost or visibility impacts at Jeffrey Units 1 and 2. NPCA commented that LNB or ultra LNB with SCR was likewise not evaluated, despite the BART analysis noting that such combinations can achieve reductions up to 97 percent.

Response #6: Overfire air was considered along with LNB, so this combination of controls was included in the cost and

visibility analysis submitted by the State. Likewise, LNB was included with the consideration of SCR, as it makes the SCR less expensive to build.

The State subsequently provided cost and visibility information for SNCR operated at 0.10 lbs/MMBtu at these units. For Jeffrey Unit 1, the change in visibility improvement between the SNCR scenario (0.10 lbs NO_x /MMBtu) and the LNB scenario (0.15 lbs NO_x /MMBtu) at Hercules Glades was 0.030 dv. The difference in the cumulative improvement across all five Class I areas for this scenario was 0.090 dv. The annual incremental cost of these controls is \$3,103,877, for an incremental cost per ton of \$1,748.

The results for SNCR at Jeffrey Unit 2 are similar - 0.020 dv of improvement at Wichita Mountains and 0.080 dv cumulative improvement across all five Class I areas. The annual incremental cost of these controls is \$3,103,877, for an incremental cost per ton of \$1,478.

The State concluded that the additional NO_x reduction costs are high for the associated low incremental visibility improvements

for Jeffrey Units 1 and 2, and do not warrant changes to the proposed BART controls. Although the costs are likely cost effective on a per ton basis, the BART Guidelines provide the State flexibility to determine the weight and significance of the five factors, and EPA agrees that the State reasonably determined that the costs of further control are not warranted based on the low additional visibility improvements. Therefore, EPA finds that no changes to the BART determinations or to the SIP are needed in response to this comment.

Comment #7: NPCA commented that the BART determinations for La Cygne Units 1 and 2 were flawed due to an incomplete analysis of SCR and other NO_x control options. La Cygne Unit 1 has an existing SCR, but NPCA asserted that the most stringent rate the SCR is capable of achieving at Unit 1 was not analyzed. NPCA commented that a control technology has not actually been selected for Unit 2; rather, an overall emissions rate was established as BART. NPCA claims that SCR with the lowest achievable emissions rate should be evaluated as BART for Unit 2 and would likely be shown to be cost effective. NPCA commented that other combinations of NO_x controls should also be evaluated

for Unit 2, including overfire air, LNB, and the combination of SCR with feasible combustion controls.

Response #7: The State's evaluation of the BART analysis for La Cygne Units 1 and 2 for NO_x resulted in the decision that establishing a combined emissions limit for both units with a rate of 0.13 lbs/MMBtu was BART.

For Unit 1, as a part of the BART analysis, the State reviewed EPA's Clean Air Markets Division and the Energy Information Agency's databases for emissions data on cyclone boilers equipped with SCR technology. A relatively small number of cyclone boilers were so equipped at that time and their emission rates varied both above and below the presumptive NO_x rate. Based on this information, the State determined that a rate of 0.10 lbs/MMBtu was a reasonably stringent rate to evaluate for the existing control.

NPCA is correct that SCR was not specified as BART for Unit 2; rather, a combined rate for La Cygne Units 1 and 2 was specified as BART. While a range of control technologies must be evaluated in order to make a BART determination, EPA believes

that it is acceptable to establish an enforceable emission limit as BART, rather than specifying a control technology to achieve it.

The State subsequently provided additional visibility and cost information to show the incremental visibility improvement that would result from requiring lower NO_x emission rates for Unit 2. The annualized cost for SCR on Kansas City Power and Light La Cygne Unit 2 was obtained from Table 5.5 of the BART analysis⁴. The State claimed that in order to achieve a lower emissions rate, the size of the SCR would need to be scaled up, resulting in concurrent increases in electrical demand, in raw materials, and maintenance. The incremental annualized cost for these additional capital and operational costs was estimated to be 20 percent greater than the initial cost projection for the SCR. The change in visibility improvement between the proposed BART emission rate (0.23 lbs NO_x /MMBtu) and the Unit 2 SCR scenario (0.08 lbs NO_x /MMBtu) was 0.082 dv for Upper Buffalo. The difference in the cumulative improvement across all five Class I areas is 0.25 dv. The annualized incremental cost of controls

⁴ BART Five Factor Analysis for Kansas City Power and Light La Cygne Generating Station, prepared by Trinity Consultants, August 2007.

in this scenario is \$2,981,706, for an incremental cost per ton of \$548.

As with the Jeffrey units, overfire air was considered along with LNB, so this combination of control technologies has already been evaluated.

The annualized cost for SNCR control on Kansas City Power and Light La Cygne Unit 2 was determined by using SNCR costs obtained from Jeffrey Unit 1, and scaling the dollar amount using heat input and NO_x rates. The change in visibility improvement between the proposed BART emissions rate (0.23 lbs NO_x/MMBtu) and the Unit 2 SNCR scenario (0.14 lbs NO_x /MMBtu) is 0.044 dv for Hercules Glades. The difference in the cumulative improvement across all five Class I areas is 0.12 dv. The annualized incremental cost of controls in this scenario is \$972,747, for an incremental cost per ton of \$298.

The State concluded that the additional NO_x reduction costs are high for the associated low incremental visibility improvements for La Cygne Units 1 and 2, and do not warrant changes to the proposed BART controls. The BART Guidelines provide the State

the flexibility to determine the weight and significance of the five factors. Although the costs appear to be reasonable on a cost per ton basis, EPA has some concern with the scaling methodology utilized by the State to arrive at cost estimates for the lower NO_x rates. However, given the low visibility improvements associated with the additional control, EPA agrees it is reasonable to determine that the costs of further control are not warranted and no changes to the BART determinations or to the SIP are needed in response to this comment.

EPA also notes that since the time of the State's BART determinations and submission of the regional haze SIP, Kansas City Power and Light applied for a permit to install SCR on La Cygne Unit 2. The permit was effective March 16, 2011.⁵ In order for the permit to remain valid, Kansas City Power and Light must commence construction within 18 months of the permit's effective date (by September 2012).

Comment #8: NPCA commented that while La Cygne Units 1 and 2 and Jeffrey Units 1 and 2 have proposed to either install or upgrade scrubbers at all four units to control SO₂ emissions, the

⁵ Construction Permit issued to Kansas City Power and Light Company for the La Cygne Generating Station. Permit effective March 16, 2011.

State's analysis was incomplete in that it lacked an evaluation of the most stringent emission limits the technology is capable of achieving. NPCA claims that scrubbers, both wet and dry, are capable of emission reductions below the proposed BART emission rates of 0.15 lbs/MMBtu at Jeffrey and 0.10 lbs/MMBtu at La Cygne. NPCA suggests that scrubbers are capable of achieving 0.03 to 0.05 lbs/MMBtu at each unit.

Response #8: The State's evaluation of the BART analysis for Jeffrey Units 1 and 2 for SO₂ resulted in the determination that rebuilding the existing wet scrubber units and meeting a rate of 0.15 lbs/mmBtu was BART. The State did not believe that it was feasible to achieve an emissions rate of 0.05 lbs/MMBtu with rebuilt technology, so costs and visibility improvements were subsequently provided for the installation of a new scrubber operating at 0.05 lbs/MMBtu for both Jeffrey units. The State obtained annualized costs for new scrubbers on Jeffrey Units 1 and 2 from Westar Energy. The change in visibility improvement between the new wet scrubber scenario (0.05 lbs SO₂/MMBtu) and the proposed BART emission limit (0.15 lbs SO₂/MMBtu) for Jeffrey Unit 1 was 0.052 dv at Hercules Glades. The difference in the cumulative improvement across all five Class I areas is 0.168

dv. The annualized incremental cost of controls in this scenario is \$23,567,203, for an incremental cost per ton of \$6,635.

The differences for Jeffrey Unit 2 under these scenarios are comparable to Unit 1 - 0.057 dv improvement at Hercules Glades, and 0.160 cumulatively. The annualized incremental cost of controls in this scenario was \$23,567,203, for an incremental cost per ton of \$6,635.

The State concluded that the additional SO₂ reduction costs are high given the low incremental visibility improvements for Jeffrey Units 1 and 2, and do not warrant changes to the proposed BART emission rates. EPA has some concern with the assumptions used by the State in arriving at the cost estimates, however, given the very low visibility improvement modeled for the additional control, consistent with the BART Guidelines which provide the State flexibility to determine the weight and significance of the five factors, EPA agrees it is reasonable to determine that the costs of further control are not warranted and no changes to the BART determinations or to the SIP are needed in response to this comment.

EPA also notes, as was referenced above, since the time of the State's BART determinations and submission of the regional haze SIP, Westar Energy, EPA and the State entered into a Federal Consent Decree in resolution of alleged violations of the Clean Air Act. The Consent Decree requires that Jeffrey Units 1 and 2 each meet a 30-day rolling average unit removal efficiency for SO₂ of at least 97 percent or a 30-day rolling average unit emission rate for SO₂ of 0.070 lbs/MMBtu. Therefore, following implementation of the regional haze requirements and the Consent Decree, Jeffrey Units 1 and 2 will be well controlled for SO₂.

The State's evaluation of the BART analysis for La Cygne Units 1 and 2 for SO₂ resulted in the determination that a combined emissions limit for both units at rate of 0.10 lbs/MMBtu was BART. Unit 1 has an existing scrubber that will be modified to separate the PM control from the SO₂ control resulting in increased SO₂ removal efficiency. Unit 2, which did not have an existing scrubber, will be retrofitted with a new scrubber. The combined BART emission rate chosen for SO₂ controls is within the range of expected removal efficiencies, considering one unit is a retrofitted scrubber.

The State subsequently provided additional cost and visibility information to further evaluate lower SO₂ emission rates. The State estimated the incremental annualized cost estimate to be 20 percent greater than the initial cost projection for the scrubber, because of the increased electrical demand, raw material costs, and maintenance costs associated with achieving a more stringent emissions rate.

For the Unit 1 scrubber at La Cygne, the change in visibility improvement from the presumptive BART emissions rate (0.15 lbs SO₂/MMBtu) to a lower rate (0.05 lbs SO₂/mmBtu) is 0.04 dv at Caney Creek. The difference in the cumulative improvement across all five Class I areas for this scenario is 0.12 dv. The annualized incremental cost of controls in this scenario is \$6,098,239, for an incremental cost per ton of \$1,495. The La Cygne Unit 2 scrubber scenario is comparable: 0.04 dv improvement at Hercules Glades, and 0.097 dv cumulative improvement. The annualized incremental cost of controls in this scenario is \$5,427,642, for an incremental cost per ton of \$1,495.

The State concluded that the additional SO₂ reduction costs are high given the associated low incremental visibility improvements for La Cygne Units 1 and 2, and changes to the proposed BART controls are not warranted. Although the costs appear to be reasonable on a cost per ton basis, EPA has some concern with the scaling methodology utilized by the State to arrive at the cost estimates for the lower SO₂ rate. However, given the low additional visibility improvement, consistent with the BART Guidelines which provide the State flexibility to determine the weight and significance of the five factors, EPA agrees it is reasonable to determine that the costs of further control are not warranted and no changes to the BART determinations or to the SIP are needed in response to this comment.

Comment #9: NPCA commented that the proposed SIP fails to address cumulative impact of Kansas BART sources on all Class I areas impacted. NPCA says that the modeling results presented in the proposed approval do not provide for a determination of the cumulative impact from Jeffrey Units 1 and 2 or La Cygne Units 1 and 2. NPCA notes that the four BART units mentioned

above impact nine Class I areas, but the State only provided visibility information for five Class I areas.

Response #9: In order to keep the size of the modeling domain manageable, the State chose to conduct refined modeling on the five most impacted Class I areas. Given the level of the modeled impacts at these five Class I areas, EPA does not believe that the State was unreasonable in streamlining its modeling exercise to exclude the other four Class I areas from its visibility analysis. Given the overall modeled impacts at the most impacted Class I areas, taking into account the impacts at the other four areas would have been unlikely to significantly change the State's conclusions about BART emission limits. Therefore, EPA believes that no changes to the BART determinations or to the SIP are needed in response to this comment.

III. Final Action

EPA is taking final action to approve the State of Kansas' Regional Haze SIP, submitted on November 9, 2009, with supplemental information provided in December 2011, including a letter dated December 1, 2011, in which the State withdrew specific SSM provisions of the regional haze SIP from EPA's consideration. EPA finds that the Kansas regional haze SIP submittal meets all of the applicable Regional Haze requirements set forth in section 169A and 169B of the Act and in the Federal regulations codified at 40 CFR 51.300-308, and the requirements of 40 CFR Part 51, Subpart F and Appendix V.

IV. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." This rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this rule.

List of Subjects in 40 CFR Part 52

Air pollution control, Environmental protection,

Incorporation by reference, Intergovernmental relations,
Nitrogen oxides, Particulate matter, Reporting and recordkeeping
requirements, Sulfur dioxide, Volatile organic compounds.

Dated: December 15, 2011

Karl Brooks,
Regional Administrator,
Region 7.

40 CFR part 52 is amended as follows:

Part 52 - [AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart R—Kansas

2. In § 52.870:

a. The table in paragraph (d) is amended by revising the table headings and adding entries (3) and (4) in numerical order.

b. The table in paragraph (e) is amended by adding entry (33) in numerical order.

The revisions and additions read as follows:

§ 52.870 Identification of plan.

* * * * *

(d) * * *

EPA-APPROVED KANSAS SOURCE-SPECIFIC REQUIREMENTS

| Name of source | Permit or Case No. | State effective date | EPA approval date | Explanation |
|---|--------------------|----------------------|--|---|
| * * * * * | | | | |
| (3) Kansas City Power and Light Company | | 12/5/07 | [Insert date of publication in the <u>Federal Register</u>], [Insert | Certain provisions withdrawn from plan as identified in |

| | | | | |
|-------------------------|--|---------|---|--|
| | | | <u>Federal Register</u> citation] | letter dated 12/1/11 from Kansas |
| (4) Westar Energy, Inc. | | 2/29/08 | [Insert date of publication in the <u>Federal Register</u>], [Insert <u>Federal Register</u> citation] | Certain provisions withdrawn from plan as identified in letter dated 12/1/11 from Kansas |

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(e) * * *

EPA-APPROVED KANSAS NONREGULATORY PROVISIONS

| Name of nonregulatory SIP provision | Applicable geographic or Nonattainment area | State submittal date | EPA approval date | Explanation |
|---|---|----------------------|--|--|
| * * * * * | | | | |
| (33) Regional Haze Plan for the first implementation period | Statewide | 11/9/09 | [Insert date of publication in the <u>Federal Register</u>], [Insert <u>Federal Register</u> citation] | Certain provisions withdrawn from plan as identified in letter dated 12/1/11 from Kansas |

[FR Doc. 2011-32998 Filed 12/23/2011 at 8:45 am; Publication Date:
12/27/2011]